LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A multi-beam satellite comprising:

an input section to receive a plurality of first spot beams via ~~any one of~~ a plurality of uplink antennas, each of the plurality of uplink antennas being repositionable to receive a test signal transmitted from a single earth station;

an output section to transmit a plurality of second spot beams via ~~any one of~~ a plurality of downlink antennas, each of the plurality of downlink antennas being repositionable to retransmit the test signal to the single earth station; and

a payload architecture coupled between said input section and said output section, said payload architecture flexibly and selectively power dividing, switching and filtering signals from said plurality of first spot beams received by said input section and routing the signals to said output section to be transmitted as said plurality of second spot beams.

2. (Original) The satellite of claim 1, wherein said payload architecture switches to select one of said plurality of first spot beams received by said input section to contain a gateway.

3. (Currently Amended) The satellite of claim 2, wherein said plurality of first spot beams includes a plurality of primary beams and a plurality of secondary beams, said payload architecture being operative to select any of the plurality of primary beams to contain a gateway.

4. (Cancelled)

5. (Original) The satellite of claim 2, wherein said payload architecture allocates return channels among said plurality of first spot beams by switching and filtering of said plurality of first spot beams.

6. (Cancelled)

7. (Previously Presented) A multi-beam satellite comprising:

an input section to receive uplink signals from a plurality of first spot beams via any one of a plurality of uplink antennas;

an output section to transmit a plurality of second spot beams via any one of a plurality of downlink antennas; and

a payload architecture coupled between said input section and said output section, said payload architecture flexibly and selectively switching and filtering said plurality of first spot beams received at said input section and routing the switched and filtered plurality of second spot beams transmitted by said output section so as to perform testing of each of said plurality of first spot beams and each of said plurality of second spot beams;

wherein said payload architecture selectively switches said plurality of first spot beams to allow any uplink signal to act as a gateway signal for purposes of testing.

8. (Cancelled)

9. (Original) The satellite of claim 7, wherein said testing is performed using test signals from a single ground station.

10. (Original) The satellite of claim 7, wherein said payload architecture allows connectivity, for test purposes only, of one of said plurality of second spot beams corresponding to a cell with one of said plurality of first spot beams corresponding to said cell.

11. (Previously Presented) The satellite of claim 9, wherein said testing operates in conjunction with a control system to reposition at least one first antenna and least one second antenna so that

each one of said plurality of first spot beams and said plurality of second spot beams can be tested from said single ground station.

12. (Currently Amended) The satellite of claim 7, wherein said plurality of first spot beams includes spot beams corresponding to primary cells and secondary cells, the payload architecture being operative to select any of the primary cells to contain a gateway.

13. (Original) The satellite of claim 12, wherein said testing includes testing of first spot beams corresponding to a secondary cell.

14. (Previously Presented) A method of testing a multi-beam satellite, said method comprising:

receiving a plurality of first spot beams at said satellite via any one of a plurality of uplink antennas;

transmitting a plurality of second spot beams from said satellite via any one of a plurality of downlink antennas;

switching said plurality of first spot beams to allow connectivity of a first spot beam in a cell with a second spot beam in said cell; and

sending a test signal from a single ground station on said first spot beam and receiving the test signal at said second spot beam to test said first spot beam and said second spot beam;

wherein any one of said plurality of first spot beams can act as a gateway for the purposes of testing said first spot beam and said second spot beam.

15. (Original) The method of claim 14, further comprising repeating said step of sending a test signal for each one of said plurality of first spot beams and each one of said plurality of second spot beams from said single ground station.

16. (Original) The method of claim 15, wherein said satellite comprises a first antenna or antenna set receiving said plurality of first spot beams and a second antenna or antenna set

transmitting said plurality of second spot beams, and said first antenna or antenna set and said second antenna or antenna set are repositioned for each pair of one of said plurality of first spot beams and one of said plurality of second spot beams corresponding to a cell.

17. (Previously Presented) The method of claim 15, wherein said satellite comprises one or more shared antenna apertures receiving said plurality of first spot beams and transmitting said plurality of second spot beams, and said shared antenna aperture is repositioned for each pair of one of said plurality of first spot beams and one of said plurality of second spot beams corresponding to a cell.

18. (Previously Presented) The multi-beam satellite of claim 1, wherein said power dividing is performed through a plurality of power dividers such that a given signal from said plurality of first spot beams is routed to a plurality of switching devices.

19. (Previously Presented) The multi-beam satellite of claim 18, wherein the power dividers comprise at least one of a plurality of 1:3 power dividers and 1:2 power dividers.

20. (Previously Presented) The multi-beam satellite of claim 1, further comprising an inverse multiplexer operative to receive power divided and switched signals from the plurality of first spot beams and combine them into a first combined signal, wherein the first combined signal is transmitted from the output section to a gateway ground cell.

21. (Previously Presented) The multi-beam satellite of claim 20, wherein the gateway ground cell is covered by one of the second spot beams.

22. (Previously Presented) The multi-beam satellite of claim 2, wherein the gateway is operative to generate an uplink signal and monitor a downlink signal corresponding to the uplink signal for the purposes of testing.

23. (Previously Presented) The multi-beam satellite of claim 7, further comprising a plurality of 1:3 power dividers operative to route any of the uplink signals to any of the plurality of second spot beams, such that any uplink signal can act as a gateway beam for purposes of testing.

24. (Previously Presented) The multi-beam satellite of claim 7, wherein performance of the plurality of first and second spot beams is tested by re-pointing a satellite antenna structure in a scan pattern.